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SEQUENCE LISTING

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<120> NOVEL GENES RELATING TO CHRONIC RHEUMATOID ARTHRITIS

<130> Q85885

<140> 10/521,940
<141> 2005-01-21

<150> PCT/JP03/09180
<151> 2003-07-18

<150> JP 2002-211951
<151> 2002-07-22

<160> 34

<170> PatentIn version 3.3

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Lys Leu Leu His Gln Val Ser Lys Leu Cys Gly Lys Cys Ser Pro Thr
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gac gtg gac atc ctg cag ccc tcc ttc aac ttc ctg tat tgg agc ctt 144
Asp Val Asp Ile Leu Gln Pro Ser Phe Asn Phe Leu Tyr Trp Ser Leu
35 40 45

cat cag acc aca ccc agc agt cag aaa aga gct gct gca gtg ctc ctg 192
His Gln Thr Pro Ser Ser Gln Lys Arg Ala Ala Val Leu Leu
50 55 60

agc agc aca ggc ctg atg gag ctt ctg gag aag atg ctg gcc ctc acc 240
Ser Ser Thr Gly Leu Met Glu Leu Leu Glu Lys Met Leu Ala Leu Thr
65 70 75 80

ttg gca aag gca gat tct ccc agg act gca ctc ctc tgc tct gcc tgg Leu Ala Lys Ala Asp Ser Pro Arg Thr Ala Leu Leu Cys Ser Ala Trp 85 90 95	288
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gtt cac cag aca ctc tct gtg gaa atg gac caa gta ttg aag gct ctc Val His Gln Thr Leu Ser Val Glu Met Asp Gln Val Leu Lys Ala Leu 115 120 125	384
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ctg gtg ccc tca ggg gcc cag cca ctg cca gcc acc aag gac act gtc Leu Val Pro Ser Gly Ala Gln Pro Leu Pro Ala Thr Lys Asp Thr Val 165 170 175	528
cta gct cca ctg cga atg tcg caa gtc cgg tcc ctg gtc att ggg ctg Leu Ala Pro Leu Arg Met Ser Gln Val Arg Ser Leu Val Ile Gly Leu 180 185 190	576
cag aac ctc ctg gtg cag aag gac cct cta ttg tcc cag gcc tgt gtt Gln Asn Leu Leu Val Gln Lys Asp Pro Leu Leu Ser Gln Ala Cys Val 195 200 205	624
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att gct ctc cac gtg gcc tcc cag cct tgg aat cgg ttt ttg ctg ttt Ile Ala Leu His Val Ala Ser Gln Pro Trp Asn Arg Phe Leu Leu Phe 225 230 235 240	720
acc ctc ttg gat gct gga gag aat tcc ttc ctc aga cct gag att ttg Thr Leu Leu Asp Ala Gly Glu Asn Ser Phe Leu Arg Pro Glu Ile Leu 245 250 255	768
agg ctc atg acc ctg ttt atg cgg tac cgg agt agc agt gtc ctc tct Arg Leu Met Thr Leu Phe Met Arg Tyr Arg Ser Ser Ser Val Leu Ser 260 265 270	816
cat gaa gag gtg ggt gat gtt ctg caa ggt gtg gct ttg gct gac ctg His Glu Glu Val Gly Asp Val Leu Gln Gly Val Ala Leu Ala Asp Leu 275 280 285	864
tct acc ctc tcg aac acc aca ctc cag gcc ctg cat ggc ttc ttc cag Ser Thr Leu Ser Asn Thr Thr Leu Gln Ala Leu His Gly Phe Phe Gln 290 295 300	912

cag ctc cag agc atg gga cac ctg gct gac cac agc atg gcc cag acc 960
Gln Leu Gln Ser Met Gly His Leu Ala Asp His Ser Met Ala Gln Thr
305 310 315 320

ctg cag gcc tcc ttg gag ggc ctt ccc cct agc acc tcc tca ggc cag 1008
Leu Gln Ala Ser Leu Glu Gly Leu Pro Pro Ser Thr Ser Ser Gly Gln
325 330 335

cca ccc ctg cag gac atg ctc tgc ctg gga ggg gtg gct gta tcc ctg 1056
Pro Pro Leu Gln Asp Met Leu Cys Leu Gly Gly Val Ala Val Ser Leu
340 345 350

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Asp Val Asp Ile Leu Gln Pro Ser Phe Asn Phe Leu Tyr Trp Ser Leu
35 40 45

His Gln Thr Thr Pro Ser Ser Gln Lys Arg Ala Ala Ala Val Leu Leu
50 55 60

Ser Ser Thr Gly Leu Met Glu Leu Leu Glu Lys Met Leu Ala Leu Thr
65 70 75 80

Leu Ala Lys Ala Asp Ser Pro Arg Thr Ala Leu Leu Cys Ser Ala Trp
85 90 95

Leu Leu Thr Ala Ser Phe Ser Ala Gln Gln His Lys Gly Ser Leu Gln
100 105 110

Val His Gln Thr Leu Ser Val Glu Met Asp Gln Val Leu Lys Ala Leu
115 120 125

Ser Phe Pro Lys Lys Ala Ala Leu Leu Ser Ala Ala Ile Leu Cys
130 135 140

Phe Leu Arg Thr Ala Leu Arg Gln Ser Phe Ser Ser Ala Leu Val Ala
145 150 155 160

Leu Val Pro Ser Gly Ala Gln Pro Leu Pro Ala Thr Lys Asp Thr Val
165 170 175

Leu Ala Pro Leu Arg Met Ser Gln Val Arg Ser Leu Val Ile Gly Leu
180 185 190

Gln Asn Leu Leu Val Gln Lys Asp Pro Leu Leu Ser Gln Ala Cys Val
195 200 205

Gly Cys Leu Glu Ala Leu Leu Asp Tyr Leu Asp Ala Arg Ser Pro Asp
210 215 220

Ile Ala Leu His Val Ala Ser Gln Pro Trp Asn Arg Phe Leu Leu Phe
225 230 235 240

Thr Leu Leu Asp Ala Gly Glu Asn Ser Phe Leu Arg Pro Glu Ile Leu
245 250 255

Arg Leu Met Thr Leu Phe Met Arg Tyr Arg Ser Ser Ser Val Leu Ser
260 265 270

His Glu Glu Val Gly Asp Val Leu Gln Gly Val Ala Leu Ala Asp Leu
275 280 285

Ser Thr Leu Ser Asn Thr Thr Leu Gln Ala Leu His Gly Phe Phe Gln
290 295 300

Gln Leu Gln Ser Met Gly His Leu Ala Asp His Ser Met Ala Gln Thr
305 310 315 320

Leu Gln Ala Ser Leu Glu Gly Leu Pro Pro Ser Thr Ser Ser Gly Gln
325 330 335

Pro Pro Leu Gln Asp Met Leu Cys Leu Gly Gly Val Ala Val Ser Leu
340 345 350

Ser His Ile Arg Asn
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<213> Homo sapiens

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ccc aag gca gga gga agg gcg gcg ccc cca aac tcc cag gac gcc tgc 96
Pro Lys Ala Gly Gly Arg Ala Ala Pro Pro Asn Ser Gln Asp Ala Cys
20 25 30

agc acc ccc cac gcg ccg ctc tcc gcc tct ggg gag cat cct gcc acc 144
Ser Thr Pro His Ala Pro Leu Ser Ala Ser Gly Glu His Pro Ala Thr
35 40 45

ccc cga cac aca cac ccc ggc tac atc ccg cct tct cac gct tgg tca 192
Pro Arg His Thr His Pro Gly Tyr Ile Pro Pro Ser His Ala Trp Ser
50 55 60

ggc gct ctg gag atg tcg gag atc cag gct ttt cct aaa gag tca gga 240
Gly Ala Leu Glu Met Ser Glu Ile Gln Ala Phe Pro Lys Glu Ser Gly
65 70 75 80

ttg gaa ggc gga ctc cca ccg ttt gct gag ctc cac atg aca aca gca 288
Leu Glu Gly Leu Pro Pro Phe Ala Glu Leu His Met Thr Thr Ala
85 90 95

gac gac agg ccg cac tga 306
Asp Asp Arg Pro His
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<210> 4
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Ser Thr Pro His Ala Pro Leu Ser Ala Ser Gly Glu His Pro Ala Thr
35 40 45

Pro Arg His Thr His Pro Gly Tyr Ile Pro Pro Ser His Ala Trp Ser
50 55 60

Gly Ala Leu Glu Met Ser Glu Ile Gln Ala Phe Pro Lys Glu Ser Gly
65 70 75 80

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85 90 95

Asp Asp Arg Pro His
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cgc ggg caa ctg gga gag ggg gcg gtg ccc agt tcc cgg ccc ggc cct 96
Arg Gly Gln Leu Gly Gly Ala Val Pro Ser Ser Arg Pro Gly Pro
20 25 30

ccc cgc gga ggt ggc cac gtc agc gca gcg tcg ctc gga gct cgc ggc 144
Pro Arg Gly Gly His Val Ser Ala Ala Ser Leu Gly Ala Arg Gly
35 40 45

cgg atg ggg aag gcg gcg gcg gtg gcc ttt ggg gcc gaa gtg ggc 192
Arg Met Gly Lys Ala Ala Ala Val Ala Phe Gly Ala Glu Val Gly
50 55 60

gtg cgg ctc gcg ctg ttc gcg gcc ttc ctg gtg acg gag ctg ctc ccc 240
Val Arg Leu Ala Leu Phe Ala Ala Phe Leu Val Thr Glu Leu Leu Pro
65 70 75 80

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85	90	95	
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Pro Tyr Val Glu Ala Glu Tyr Phe Pro Thr Lys Pro Met Phe Val Ile			
100	105	110	
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Ala Phe Leu Ser Pro Leu Ser Leu Ile Phe Leu Ala Lys Phe Leu Lys			
115	120	125	
aag gca gac aca aga gac agc aga caa gcc tgc ctg gct gcc agc ctt			432
Lys Ala Asp Thr Arg Asp Ser Arg Gln Ala Cys Leu Ala Ala Ser Leu			
130	135	140	
gcc ctg gct ctg aat ggc gtc ttt acc aac aca ata aaa ctg atc gta			480
Ala Leu Ala Leu Asn Gly Val Phe Thr Asn Thr Ile Lys Leu Ile Val			
145	150	155	160
ggg agg cca cgc cca gat ttc ttc tac cgc tgc ttc cct gat ggg cta			528
Gly Arg Pro Arg Pro Asp Phe Phe Tyr Arg Cys Phe Pro Asp Gly Leu			
165	170	175	
gcc cat tct gac ttg atg tgt aca ggg gat aag gac gtg gtg aat gag			576
Ala His Ser Asp Leu Met Cys Thr Gly Asp Lys Asp Val Val Asn Glu			
180	185	190	
ggc cga aag agc ttc ccc agt gga cat tct tcc ttt gca ttt gct ggt			624
Gly Arg Lys Ser Phe Pro Ser Gly His Ser Ser Phe Ala Phe Ala Gly			
195	200	205	
ctg gcc ttt gcg tcc ttc tac ctg gca ggg aag tta cac tgc ttc aca			672
Leu Ala Phe Ala Ser Phe Tyr Leu Ala Gly Lys Leu His Cys Phe Thr			
210	215	220	
cca caa ggc cgt ggg aaa tct tgg agg ttc tgt gcc ttt ctg tca cct			720
Pro Gln Gly Arg Gly Lys Ser Trp Arg Phe Cys Ala Phe Leu Ser Pro			
225	230	235	240
cta ctt ttt gca gct gtg att gca ctg tcc cgc aca tgt gac tac aag			768
Leu Leu Phe Ala Ala Val Ile Ala Leu Ser Arg Thr Cys Asp Tyr Lys			
245	250	255	
cat cac tggcaa gat gta cta gtt gga tcc atg att gga atg aca ttt			816
His His Trp Gln Asp Val Leu Val Gly Ser Met Ile Gly Met Thr Phe			
260	265	270	
gcc tat gtc tgc tat cgg cag tat tat cct cct ctg act gat gca gaa			864
Ala Tyr Val Cys Tyr Arg Gln Tyr Tyr Pro Pro Leu Thr Asp Ala Glu			
275	280	285	
tgc cat aaa cca ttt caa gac aaa ctt gta ctt tcc act gca cag aag			912
Cys His Lys Pro Phe Gln Asp Lys Leu Val Leu Ser Thr Ala Gln Lys			
290	295	300	
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305 310

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Pro Arg Gly Gly Gly His Val Ser Ala Ala Ser Leu Gly Ala Arg Gly
35 40 45

Arg Met Gly Lys Ala Ala Ala Val Ala Phe Gly Ala Glu Val Gly
50 55 60

Val Arg Leu Ala Leu Phe Ala Ala Phe Leu Val Thr Glu Leu Leu Pro
65 70 75 80

Pro Phe Gln Arg Leu Ile Gln Pro Glu Glu Met Trp Leu Tyr Arg Asn
85 90 95

Pro Tyr Val Glu Ala Glu Tyr Phe Pro Thr Lys Pro Met Phe Val Ile
100 105 110

Ala Phe Leu Ser Pro Leu Ser Leu Ile Phe Leu Ala Lys Phe Leu Lys
115 120 125

Lys Ala Asp Thr Arg Asp Ser Arg Gln Ala Cys Leu Ala Ala Ser Leu
130 135 140

Ala Leu Ala Leu Asn Gly Val Phe Thr Asn Thr Ile Lys Leu Ile Val
145 150 155 160

Gly Arg Pro Arg Pro Asp Phe Phe Tyr Arg Cys Phe Pro Asp Gly Leu
165 170 175

Ala His Ser Asp Leu Met Cys Thr Gly Asp Lys Asp Val Val Asn Glu

180

185

190

Gly Arg Lys Ser Phe Pro Ser Gly His Ser Ser Phe Ala Phe Ala Gly
195 200 205

Leu Ala Phe Ala Ser Phe Tyr Leu Ala Gly Lys Leu His Cys Phe Thr
210 215 220

Pro Gln Gly Arg Gly Lys Ser Trp Arg Phe Cys Ala Phe Leu Ser Pro
225 230 235 240

Leu Leu Phe Ala Ala Val Ile Ala Leu Ser Arg Thr Cys Asp Tyr Lys
245 250 255

His His Trp Gln Asp Val Leu Val Gly Ser Met Ile Gly Met Thr Phe
260 265 270

Ala Tyr Val Cys Tyr Arg Gln Tyr Tyr Pro Pro Leu Thr Asp Ala Glu
275 280 285

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Pro Gly Asp Ser Tyr Cys Phe Asp Ile
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Arg Leu Ala Leu Phe Ala Ala Phe Leu Val Thr Glu Leu Leu Pro Pro
20 25 30

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Phe Gln Arg Leu Ile Gln Pro Glu Glu Met Trp Leu Tyr Arg Asn Pro

35	40	45														
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Tyr	Val	Glu	Ala	Glu	Tyr	Phe	Pro	Thr	Lys	Pro	Met	Phe	Val	Ile	Ala	
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ttt	ctc	tct	cca	ctg	tct	ctg	atc	ttc	ctg	gcc	aaa	ttt	ctc	aag	aag	240
Phe	Leu	Ser	Pro	Leu	Ser	Leu	Ile	Phe	Leu	Ala	Lys	Phe	Leu	Lys	Lys	
65					70				75				80			
gca	gac	aca	aga	gac	aga	aga	caa	gcc	tgc	ctg	gct	gcc	agc	ctt	gcc	288
Ala	Asp	Thr	Arg	Asp	Ser	Arg	Gln	Ala	Cys	Leu	Ala	Ala	Ser	Leu	Ala	
					85			90				95				
ctg	gct	ctg	aat	ggc	gtc	ttt	acc	aac	aca	ata	aaa	ctg	atc	gta	ggg	336
Leu	Ala	Leu	Asn	Gly	Val	Phe	Thr	Asn	Thr	Ile	Lys	Leu	Ile	Val	Gly	
					100			105				110				
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Arg	Pro	Arg	Pro	Asp	Phe	Phe	Tyr	Arg	Cys	Phe	Pro	Asp	Gly	Leu	Ala	
					115			120				125				
cat	tct	gac	ttg	atg	tgt	aca	ggg	gat	aag	gac	gtg	gtg	aat	gag	ggc	432
His	Ser	Asp	Leu	Met	Cys	Thr	Gly	Asp	Lys	Asp	Val	Val	Asn	Glu	Gly	
					130			135				140				
cga	aag	agc	ttc	ccc	agt	gga	cat	tct	tcc	ttt	gca	ttt	gct	ggt	ctg	480
Arg	Lys	Ser	Phe	Pro	Ser	Gly	His	Ser	Ser	Phe	Ala	Phe	Ala	Gly	Leu	
					145			150				155			160	
gcc	ttt	gcg	tcc	ttc	tac	ctg	gca	ggg	aag	tta	cac	tgc	ttc	aca	cca	528
Ala	Phe	Ala	Ser	Phe	Tyr	Leu	Ala	Gly	Lys	Leu	His	Cys	Phe	Thr	Pro	
					165			170				175				
caa	ggc	cgt	ggg	aaa	tct	tgg	agg	ttc	tgt	gcc	ttt	ctg	tca	cct	cta	576
Gln	Gly	Arg	Gly	Lys	Ser	Trp	Arg	Phe	Cys	Ala	Phe	Leu	Ser	Pro	Leu	
					180			185				190				
ctt	ttt	gca	gct	gtg	att	gca	ctg	tcc	cgc	aca	tgt	gac	tac	aag	cat	624
Leu	Phe	Ala	Ala	Val	Ile	Ala	Leu	Ser	Arg	Thr	Cys	Asp	Tyr	Lys	His	
					195			200				205				
cac	tgg	caa	gat	gta	cta	gtt	gga	tcc	atg	att	gga	atg	aca	ttt	gcc	672
His	Trp	Gln	Asp	Val	Leu	Val	Gly	Ser	Met	Ile	Gly	Met	Thr	Phe	Ala	
					210			215				220				
tat	gtc	tgc	tat	cg	cag	tat	tat	cct	cct	ctg	act	gat	gca	gaa	tgc	720
Tyr	Val	Cys	Tyr	Arg	Gln	Tyr	Tyr	Pro	Pro	Leu	Thr	Asp	Ala	Glu	Cys	
					225			230				235			240	
cat	aaa	cca	ttt	caa	gac	aaa	ctt	gta	ctt	tcc	act	gca	cag	aag	cct	768
His	Lys	Pro	Phe	Gln	Asp	Lys	Leu	Val	Leu	Ser	Thr	Ala	Gln	Lys	Pro	
					245			250				255				
ggg	gat	tct	tat	tgt	ttt	gat	att	taa							795	
Gly	Asp	Ser	Tyr	Cys	Phe	Asp	Ile									

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35 40 45

Tyr Val Glu Ala Glu Tyr Phe Pro Thr Lys Pro Met Phe Val Ile Ala
50 55 60

Phe Leu Ser Pro Leu Ser Leu Ile Phe Leu Ala Lys Phe Leu Lys Lys
65 70 75 80

Ala Asp Thr Arg Asp Ser Arg Gln Ala Cys Leu Ala Ala Ser Leu Ala
85 90 95

Leu Ala Leu Asn Gly Val Phe Thr Asn Thr Ile Lys Leu Ile Val Gly
100 105 110

Arg Pro Arg Pro Asp Phe Phe Tyr Arg Cys Phe Pro Asp Gly Leu Ala
115 120 125

His Ser Asp Leu Met Cys Thr Gly Asp Lys Asp Val Val Asn Glu Gly
130 135 140

Arg Lys Ser Phe Pro Ser Gly His Ser Ser Phe Ala Phe Ala Gly Leu
145 150 155 160

Ala Phe Ala Ser Phe Tyr Leu Ala Gly Lys Leu His Cys Phe Thr Pro
165 170 175

Gln Gly Arg Gly Lys Ser Trp Arg Phe Cys Ala Phe Leu Ser Pro Leu
180 185 190

Leu Phe Ala Ala Val Ile Ala Leu Ser Arg Thr Cys Asp Tyr Lys His
195 200 205

His Trp Gln Asp Val Leu Val Gly Ser Met Ile Gly Met Thr Phe Ala
210 215 220

Tyr Val Cys Tyr Arg Gln Tyr Tyr Pro Pro Leu Thr Asp Ala Glu Cys
225 230 235 240

His Lys Pro Phe Gln Asp Lys Leu Val Leu Ser Thr Ala Gln Lys Pro
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Gly Asp Ser Tyr Cys Phe Asp Ile
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Ser Gly Arg Thr Met Arg Glu Leu Ala Ile Glu Ile Gly Val Arg Ala
20 25 30

ctg ctc ttc gga gtc ttc gtt ttt aca gag ttt ttg gat ccg ttc cag 144
Leu Leu Phe Gly Val Phe Val Phe Thr Glu Phe Leu Asp Pro Phe Gln
35 40 45

aga gtc atc cag cca gaa gag atc tgg ctc tat aaa aat cct ttg gtg 192
Arg Val Ile Gln Pro Glu Ile Trp Leu Tyr Lys Asn Pro Leu Val
50 55 60

caa tca gat aac ata cct acc cgc ctc atg ttt gca att tct ttc ctc 240
Gln Ser Asp Asn Ile Pro Thr Arg Leu Met Phe Ala Ile Ser Phe Leu
65 70 75 80

aca ccc ctg gct gtt att tgt gtg gtg aaa att atc cgg cga aca gac 288
Thr Pro Leu Ala Val Ile Cys Val Val Lys Ile Ile Arg Arg Thr Asp
85 90 95

aag act gaa att aag gaa gcc ttc tta gcg gtg tcc ttg gct ctt gct Lys Thr Glu Ile Lys Glu Ala Phe Leu Ala Val Ser Leu Ala Leu Ala 100 105 110	336
ttg aat gga gtc tgc aca aac act att aaa tta ata gtg gga aga cct Leu Asn Gly Val Cys Thr Asn Thr Ile Lys Leu Ile Val Gly Arg Pro 115 120 125	384
cgc ccc gat ttc ttt tac cgc tgc ttt cca gat gga gtg atg aac tcg Arg Pro Asp Phe Phe Tyr Arg Cys Phe Pro Asp Gly Val Met Asn Ser 130 135 140	432
gaa atg cat tgc aca ggt gac ccc gat ctg gtg tcc gag ggc cgc aaa Glu Met His Cys Thr Gly Asp Pro Asp Leu Val Ser Glu Gly Arg Lys 145 150 155 160	480
agc ttc ccc agc atc cat tcc tcc ttt gcc ttt tcg ggc ctt ggc ttc Ser Phe Pro Ser Ile His Ser Phe Ala Phe Ser Gly Leu Gly Phe 165 170 175	528
acg acg ttc tac ttg gcg ggc aag ctg cac tgc ttc acc gag agt ggg Thr Thr Phe Tyr Leu Ala Gly Lys Leu His Cys Phe Thr Glu Ser Gly 180 185 190	576
cgg gga aag agc tgg cgg ctc tgt gct gcc atc ctg ccc ttg tac tgc Arg Gly Lys Ser Trp Arg Leu Cys Ala Ala Ile Leu Pro Leu Tyr Cys 195 200 205	624
gcc atg atg att gcc ctg tcc cgc atg tgc gac tac aag cat cac tgg Ala Met Met Ile Ala Leu Ser Arg Met Cys Asp Tyr Lys His His Trp 210 215 220	672
caa gat tcc ttt gtg ggt gga gtc atc ggc ctc att ttt gca tac att Gln Asp Ser Phe Val Gly Gly Val Ile Gly Leu Ile Phe Ala Tyr Ile 225 230 235 240	720
tgc tac aga cag cac tat cct cct ctg gcc aac aca gct tgc cat aaa Cys Tyr Arg Gln His Tyr Pro Pro Leu Ala Asn Thr Ala Cys His Lys 245 250 255	768
ccc tac gtt agt ctg cga gtc cca gcc tca ctg aag aaa gag gag agg Pro Tyr Val Ser Leu Arg Val Pro Ala Ser Leu Lys Lys Glu Glu Arg 260 265 270	816
ccc aca gct gac agc gca ccc agc ttg cct ctg gag ggg atc acc gaa Pro Thr Ala Asp Ser Ala Pro Ser Leu Pro Leu Glu Gly Ile Thr Glu 275 280 285	864
ggc ccg gta tga Gly Pro Val 290	876

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Met Ala Ala Gly Ala Ala Glu Ser Thr Ser Cys Arg Arg Gly Ser Cys
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Leu Leu Phe Gly Val Phe Val Phe Thr Glu Phe Leu Asp Pro Phe Gln
35 40 45

Arg Val Ile Gln Pro Glu Glu Ile Trp Leu Tyr Lys Asn Pro Leu Val
50 55 60

Gln Ser Asp Asn Ile Pro Thr Arg Leu Met Phe Ala Ile Ser Phe Leu
65 70 75 80

Thr Pro Leu Ala Val Ile Cys Val Val Lys Ile Ile Arg Arg Thr Asp
85 90 95

Lys Thr Glu Ile Lys Glu Ala Phe Leu Ala Val Ser Leu Ala Leu Ala
100 105 110

Leu Asn Gly Val Cys Thr Asn Thr Ile Lys Leu Ile Val Gly Arg Pro
115 120 125

Arg Pro Asp Phe Phe Tyr Arg Cys Phe Pro Asp Gly Val Met Asn Ser
130 135 140

Glu Met His Cys Thr Gly Asp Pro Asp Leu Val Ser Glu Gly Arg Lys
145 150 155 160

Ser Phe Pro Ser Ile His Ser Ser Phe Ala Phe Ser Gly Leu Gly Phe
165 170 175

Thr Thr Phe Tyr Leu Ala Gly Lys Leu His Cys Phe Thr Glu Ser Gly
180 185 190

Arg Gly Lys Ser Trp Arg Leu Cys Ala Ala Ile Leu Pro Leu Tyr Cys
195 200 205

Ala Met Met Ile Ala Leu Ser Arg Met Cys Asp Tyr Lys His His Trp
210 215 220

Gln Asp Ser Phe Val Gly Gly Val Ile Gly Leu Ile Phe Ala Tyr Ile
225 230 235 240

Cys Tyr Arg Gln His Tyr Pro Pro Leu Ala Asn Thr Ala Cys His Lys
245 250 255

Pro Tyr Val Ser Leu Arg Val Pro Ala Ser Leu Lys Lys Glu Glu Arg
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Pro Thr Ala Asp Ser Ala Pro Ser Leu Pro Leu Glu Gly Ile Thr Glu
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Gly Pro Val
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Val Phe Val Phe Thr Glu Phe Leu Asp Pro Phe Gln Arg Val Ile Gln
20 25 30

cca gaa gag atc tgg ctc tat aaa aat cct ttg gtg caa tca gat aac 144
Pro Glu Glu Ile Trp Leu Tyr Lys Asn Pro Leu Val Gln Ser Asp Asn
35 40 45

ata cct acc cgc ctc atg ttt gca att tct ttc ctc aca ccc ctg gct 192
Ile Pro Thr Arg Leu Met Phe Ala Ile Ser Phe Leu Thr Pro Leu Ala
50 55 60

gtt att tgt gtg gtc aaa att atc cgg cga aca gac aag act gaa att 240
Val Ile Cys Val Val Lys Ile Ile Arg Arg Thr Asp Lys Thr Glu Ile
65 70 75 80

aag gaa gcc ttc tta gcg gtg tcc ttg gct ctt gct ttg aat gga gtc Lys Glu Ala Phe Leu Ala Val Ser Leu Ala Leu Ala Leu Asn Gly Val 85 90 95	288
tgc aca aac act att aaa tta ata gtg gga aga cct cgc ccc gat ttc Cys Thr Asn Thr Ile Lys Leu Ile Val Gly Arg Pro Arg Pro Asp Phe 100 105 110	336
ttt tac cgc tgc ttt cca gat gga gtg atg aac tcg gaa atg cat tgc Phe Tyr Arg Cys Phe Pro Asp Gly Val Met Asn Ser Glu Met His Cys 115 120 125	384
aca ggt gac ccc gat ctg gtg tcc gag ggc cgc aaa agc ttc ccc agc Thr Gly Asp Pro Asp Leu Val Ser Glu Gly Arg Lys Ser Phe Pro Ser 130 135 140	432
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ttg gcg ggc aag ctg cac tgc ttc acc gag agt ggg cgg gga aag agc Leu Ala Gly Lys Leu His Cys Phe Thr Glu Ser Gly Arg Gly Lys Ser 165 170 175	528
tgg cgg ctc tgt gct gcc atc ctg ccc ttg tac tgc gcc atg atg att Trp Arg Leu Cys Ala Ala Ile Leu Pro Leu Tyr Cys Ala Met Met Ile 180 185 190	576
gcc ctg tcc cgc atg tgc gac tac aag cat cac tgg caa gat tcc ttt Ala Leu Ser Arg Met Cys Asp Tyr Lys His His Trp Gln Asp Ser Phe 195 200 205	624
gtg ggt gga gtc atc ggc ctc att ttt gca tac att tgc tac aga cag Val Gly Gly Val Ile Gly Leu Ile Phe Ala Tyr Ile Cys Tyr Arg Gln 210 215 220	672
cac tat cct cct ctg gcc aac aca gct tgc cat aaa ccc tac gtt agt His Tyr Pro Pro Leu Ala Asn Thr Ala Cys His Lys Pro Tyr Val Ser 225 230 235 240	720
ctg cga gtc cca gcc tca ctg aag aaa gag gag agg ccc aca gct gac Leu Arg Val Pro Ala Ser Leu Lys Lys Glu Glu Arg Pro Thr Ala Asp 245 250 255	768
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Pro Glu Glu Ile Trp Leu Tyr Lys Asn Pro Leu Val Gln Ser Asp Asn
35 40 45

Ile Pro Thr Arg Leu Met Phe Ala Ile Ser Phe Leu Thr Pro Leu Ala
50 55 60

Val Ile Cys Val Val Lys Ile Ile Arg Arg Thr Asp Lys Thr Glu Ile
65 70 75 80

Lys Glu Ala Phe Leu Ala Val Ser Leu Ala Leu Ala Leu Asn Gly Val
85 90 95

Cys Thr Asn Thr Ile Lys Leu Ile Val Gly Arg Pro Arg Pro Asp Phe
100 105 110

Phe Tyr Arg Cys Phe Pro Asp Gly Val Met Asn Ser Glu Met His Cys
115 120 125

Thr Gly Asp Pro Asp Leu Val Ser Glu Gly Arg Lys Ser Phe Pro Ser
130 135 140

Ile His Ser Ser Phe Ala Phe Ser Gly Leu Gly Phe Thr Thr Phe Tyr
145 150 155 160

Leu Ala Gly Lys Leu His Cys Phe Thr Glu Ser Gly Arg Gly Lys Ser
165 170 175

Trp Arg Leu Cys Ala Ala Ile Leu Pro Leu Tyr Cys Ala Met Met Ile
180 185 190

Ala Leu Ser Arg Met Cys Asp Tyr Lys His His Trp Gln Asp Ser Phe
195 200 205

Val Gly Gly Val Ile Gly Leu Ile Phe Ala Tyr Ile Cys Tyr Arg Gln
210 215 220

His Tyr Pro Pro Leu Ala Asn Thr Ala Cys His Lys Pro Tyr Val Ser
225 230 235 240

Leu Arg Val Pro Ala Ser Leu Lys Lys Glu Glu Arg Pro Thr Ala Asp
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